

## DEPARTMENT OF FOOD AND AGRICULTURE

1220 N Street, Room A-224  
Sacramento, CA 95814-5621  
Phone (916) 654-1456  
Fax (916) 654-0867  
dairy@cdfa.ca.gov



November 25, 2002

TO ALL INTERESTED PARTIES:

Enclosed are two informational releases from the Department — the latest manufacturing cost studies and comparisons of commodity market prices with California commodity sales data. The latest cost studies summarize data obtained from nonfat powder, bulk butter and Cheddar cheese processing plants for selected periods between July 2000 and December 2001. The studies have been adjusted for utility costs through August 2002. The data do not include the cost of raw product or other ingredients, nor do they include any cost associated with marketing finished products.

For each of the three manufactured products, the data are presented in two tables. The first table shows actual weighted average costs of plants grouped by efficiency. The second table details natural gas and electricity costs for the unadjusted studies and for August 2002. Also enclosed is a summary table showing the weighted average manufacturing cost for nonfat powder, butter and Cheddar cheese as published since May 1989. Cost categories include processing labor, processing non-labor, packaging, other ingredients (for butter and Cheddar cheese), general and administrative and return on investment.

The second informational release compares Chicago Mercantile Exchange market prices with prices received by California manufacturing plants. Sales were collected from five Cheddar cheese plants and six butter plants. Cheese sales data covered the period of January 2001 through July 2002, and the butter sales data covered the period of January 2001 through September 2002.

Should you have any questions regarding this material, please contact Eric Erba or me at the telephone number or e-mail address listed above.

Sincerely,

A handwritten signature in black ink, appearing to read "Edward Hunter", with a stylized flourish at the end.

Edward Hunter  
Supervising Auditor I  
Dairy Marketing Branch

Enclosures

**Weighted Average Manufacturing Costs  
for Butter, Nonfat Powder and Cheddar Cheese  
1989 - 2002**

Costs include processing labor, non-labor processing, packaging, other ingredients (for butter and Cheddar cheese only), general and administrative and return on investments. Natural gas and electricity costs, which are included in processing non-labor expenses, are summarized separately.

<b><u>Date of Release</u></b>		<b><u>Butter</u></b>		<b><u>Nonfat Powder</u></b>		<b><u>Cheddar Cheese</u><sup>1</sup></b>	
<b><u>Year</u></b>	<b><u>Month</u></b>	<b><u>Cost per Pound</u></b>	<b><u>Number of Plants</u></b>	<b><u>Cost per Pound</u></b>	<b><u>Number of Plants</u></b>	<b><u>Cost per Pound</u></b>	<b><u>Number of Plants</u></b>
1989	May	\$0.0879	11	\$0.1370	11	\$0.2251	9
1990	June	\$0.0888	11	\$0.1398	11	\$0.2324	9
1991	May	\$0.0883	10	\$0.1438	11	\$0.2192	9
1992	July	\$0.0969	12	\$0.1443	12	\$0.2010	9
1993	August	\$0.0936	12	\$0.1430	11	\$0.1868	10
1994	September	\$0.0895	11	\$0.1341	11	\$0.1889	8
1995	April	\$0.0889	9	\$0.1327	9	\$0.1862	8
1995	November	\$0.0928	9	\$0.1328	9	\$0.1981	8
1996	December	\$0.0970	9	\$0.1333	9	\$0.1898	8
1997	July	\$0.0958	8	\$0.1327	9	\$0.1840	9
1999	February	\$0.0930	8	\$0.1277	9	\$0.1759	10
2000	February	\$0.0957	8	\$0.1356	10	\$0.1693	9
2001	October <sup>2</sup>	\$0.1001	8	\$0.1590	11	\$0.1802	9
2002	November <sup>3</sup>	\$0.1208	7	\$0.1619	11	\$0.1775	9
2002	November <sup>4</sup>	\$0.1199	7	\$0.1501	11	\$0.1735	9

<sup>1</sup> For the 1996 Cheddar cheese cost study and subsequent cost studies, we have included costs associated with Cheddar cheese plants producing 500 pound barrels and 640 pound blocks. However, costs for packaging labor and packaging expenses were replaced with the average of those costs associated with 40 pound block plants.

<sup>2</sup> Includes the cost studies completed for periods between January 1998 and December 1999 and adjusted for utility costs. The utility cost adjustments were made using each plant's invoices for energy costs for August 2001.

<sup>3</sup> Includes the unadjusted cost studies for periods between July 2000 and December 2001.

<sup>4</sup> Includes the above current completed cost studies as well as utility cost adjustments for all plants. The utility cost adjustments were made using each plant's invoices for energy costs for August 2002.

# Butter Processing Costs - Adjusted for August 2002 Energy Costs

Released November 2002

1. Manufacturing cost data were collected and summarized from 7 California butter plants. The 7 plants processed 340.7 million pounds of butter in 2001, representing 99.8% of the butter processed in California.
2. The processing costs summarized in this study were incurred during an 18-month period, starting in July 2000 and ending in December 2001.
3. Only costs for natural gas and electricity were updated beyond the study period; these costs reflect the rates that plants were charged in August 2002.
4. To get the **unadjusted costs** for the two cost groups, subtract from the "Processing Non-Labor" cost category the sum of the difference of the unadjusted and adjusted natural gas and electricity costs, as shown on the page entitled, "Butter Energy Costs".
  - "Processing Non-Labor" and "Total Cost" for the low cost and high cost groups would be increased by \$0.0006 and \$0.0025 per pound, respectively.
  - The weighted average costs for "Processing Non-Labor" and for "Total Cost" would be increased by \$0.0009 per pound.
5. The "Processing Non-Labor" category includes costs such as utilities, repairs and maintenance, supplies, depreciation and rent.
6. The volume total includes both bulk butter and cut butter, but the costs reflect only costs for bulk butter (25 kg and 68 lb. blocks).
7. To obtain the weighted average, individual plant costs were weighted by their butter processing volume relative to the total volume of butter processed by all plants involved in the cost study.
8. The current manufacturing cost allowance for butter is \$0.102 per pound. About 37% of the butter was processed at a cost less than the manufacturing cost allowance.

<u>Cost Groups</u>	<u>Number of Plants</u>	<u>Processing Labor</u>	<u>Processing Non-Labor</u>	<u>Package</u>	<u>Other Ingredient</u>	<u>General &amp; Administrative</u>	<u>Return on Investment</u>	<u>Total Cost</u>	<u>Volume in Group</u>	<u>Percent in Group</u>
<i>dollars per pound of butter</i>										
Low Cost	4	\$0.0386	\$0.0407	\$0.0095	\$0.0036	\$0.0128	\$0.0079	\$0.1130	285,115,984	83.7%
High Cost	3	\$0.0526	\$0.0643	\$0.0087	\$0.0018	\$0.0184	\$0.0090	\$0.1549	55,585,020	16.3%
<u>Summary Statistics</u>										
<b>Weighted Average</b>		<b>\$0.0409</b>	<b>\$0.0445</b>	<b>\$0.0093</b>	<b>\$0.0033</b>	<b>\$0.0138</b>	<b>\$0.0081</b>	<b>\$0.1199</b>		
Range {	Minimum	\$0.0311	\$0.0334	\$0.0071	\$0.0015	\$0.0063	\$0.0048			
	Maximum	\$0.1281	\$0.0811	\$0.0106	\$0.0060	\$0.0385	\$0.0119			
Total									340,701,004	100%

Manufacturing Cost Unit,  
Ed Hunter, Supervising Auditor

Dairy Marketing Branch, CDFA

# Energy Costs for Butter Plants

Released November 2002

1. Energy cost data were collected and summarized from 7 California butter plants. The 7 plants processed 340.7 million pounds of butter in 2001, representing 99.8% of the butter processed in California.
2. The energy costs summarized in this study were incurred during a 18-month period, starting in July 2000 and ending in December 2001. These are referenced as "Unadjusted Energy Costs" in the table below.
3. Costs for natural gas and electricity were updated beyond the study period; these costs reflect the rates that plants were charged in August 2002. These are referenced as "Adjusted Energy Costs" in the table below.
4. To obtain the weighted average energy cost, individual plant energy costs were weighted by their butter processing volume relative to the total volume of butter processed by all plants involved in the cost study.

<u>Cost Groups</u>	<u>Number of Plants</u>	<u>Unadjusted Energy Costs</u>		<u>Adjusted Energy Costs</u>		<u>Volume in Group</u>	<u>Percent in Group</u>
		<u>Natural Gas</u>	<u>Electricity</u>	<u>Natural Gas</u>	<u>Electricity</u>		
		<i>dollars per pound of butter</i>					
Low Cost	4	\$0.0028	\$0.0039	\$0.0019	\$0.0042	285,115,984	83.7%
High Cost	3	\$0.0049	\$0.0110	\$0.0026	\$0.0108	55,585,020	16.3%
<u>Summary Statistics</u>							
<b>Weighted Average</b>		<b>\$0.0031</b>	<b>\$0.0051</b>	<b>\$0.0020</b>	<b>\$0.0053</b>		
Percent of Total Cost		2.57%	4.22%	1.67%	4.42%		
Range {	Minimum	\$0.0027	\$0.0017	\$0.0007	\$0.0024		
	Maximum	\$0.0051	\$0.0118	\$0.0034	\$0.0152		
Total						340,701,004	100%

# Powder Processing Costs - Adjusted for August 2002 Energy Costs

Released November 2002

1. Manufacturing cost data were collected and summarized from 11 California powder plants. The 11 plants processed 710.8 million pounds of powder in 2001, representing 100% of the powder processed in California.
2. The processing costs summarized in this study were incurred during a 18-month period, starting in July 2000 and ending in December 2001.
3. Only costs for natural gas and electricity were updated beyond the study period; these costs reflect the rates that plants were charged in August 2002.
4. To get the **unadjusted costs** for the three cost groups, subtract from the "Processing Non-Labor" cost category the sum of the difference of the unadjusted and adjusted natural gas and electricity costs, as shown on the page entitled, "Powder Energy Costs".
  - "Processing Non-Labor" and "Total Cost" for the low, medium and high cost groups would be increased by \$0.0073, \$0.0161 and \$0.0223 per pound, respectively.
  - The weighted average costs for "Processing Non-Labor" and for "Total Cost" would be increased by \$0.0118 per pound.
5. The "Processing Non-Labor" category includes costs such as utilities, repairs and maintenance, supplies, depreciation and rent.
6. The volume total includes all grades of powder packaged in any container size, but the costs reflect only costs for 25 kg and 50 lb. bags of powder.
7. To obtain the weighted average, individual plant costs were weighted by their powder processing volume relative to the total volume of powder processed by all plants involved in the cost study.
8. The current manufacturing cost allowance for powder is \$0.161 per pound. About 89% of the powder was processed at a cost less than the manufacturing cost allowance.

<u>Cost Groups</u>	<u>Number of Plants</u>	<u>Processing Labor</u>	<u>Processing Non-Labor</u>	<u>Package</u>	<u>General &amp; Administrative</u>	<u>Return on Investment</u>	<u>Total Cost</u>	<u>Volume in Group</u>	<u>Percent in Group</u>
<i>dollars per pound of powder</i>									
Low Cost	3	\$0.0257	\$0.0784	\$0.0137	\$0.0092	\$0.0119	\$0.1389	363,521,826	51.1%
Medium Cost	4	\$0.0322	\$0.0838	\$0.0141	\$0.0122	\$0.0125	\$0.1548	327,850,404	46.1%
High Cost	4	\$0.0866	\$0.1413	\$0.0133	\$0.0271	\$0.0136	\$0.2820	19,394,851	2.8%
<u>Summary Statistics</u>									
<b>Weighted Average</b>		<b>\$0.0304</b>	<b>\$0.0826</b>	<b>\$0.0139</b>	<b>\$0.0111</b>	<b>\$0.0122</b>	<b>\$0.1501</b>		
Range {	Minimum	\$0.0244	\$0.0669	\$0.0119	\$0.0068	\$0.0066			
	Maximum	\$0.1249	\$0.1732	\$0.0144	\$0.0328	\$0.0191			
Total								710,767,081	100%

# Energy Costs for Powder Plants

Released November 2002

1. Manufacturing cost data were collected and summarized from 11 California powder plants. The 11 plants processed 710.8 million pounds of powder in 2001, representing 100% of the powder processed in California.
2. The energy costs summarized in this study were incurred during a 18-month period, starting in July 2000 and ending in December 2001. These are referenced as "Unadjusted Energy Costs" in the table below.
3. Costs for natural gas and electricity were updated beyond the study period; these costs reflect the rates that plants were charged in August 2002. These are referenced as "Adjusted Energy Costs" in the table below.
4. To obtain the weighted average energy cost, individual plant energy costs were weighted by their powder processing volume relative to the total volume of powder processed by all plants involved in the cost study.

Cost Groups	Number of Plants	Unadjusted Energy Costs		Adjusted Energy Costs		Volume in Group	Percent in Group
		Natural Gas	Electricity	Natural Gas	Electricity		
<div> <div></div> <div>dollars per pound of powder</div> </div>							
Low Cost	3	\$0.0288	\$0.0076	\$0.0193	\$0.0098	363,521,826	51.1%
Low Cost	4	\$0.0365	\$0.0144	\$0.0229	\$0.0119	327,850,404	46.1%
High Cost	4	\$0.0617	\$0.0208	\$0.0366	\$0.0236	19,394,851	2.8%
Summary Statistics							
Weighted Average		\$0.0333	\$0.0111	\$0.0214	\$0.0112		
Percent of Total Cost		20.58%	6.86%	14.26%	7.46%		
Range {	Minimum	\$0.0236	\$0.0058	\$0.0104	\$0.0061		
	Maximum	\$0.0985	\$0.0305	\$0.0664	\$0.0340		
Total						710,767,081	100%

# Cheese Processing Costs - Adjusted for August 2002 Energy Costs

Released November 2002

1. Manufacturing cost data were collected and summarized from 9 California cheese plants. The 9 plants processed 699.5 million pounds of cheese in 2001, representing 95.1% of the Cheddar and Monterey Jack cheese processed in California.
2. The processing costs summarized in this study were incurred during a 18-month period, starting in July 2000 and ending in December 2001.
3. Only costs for natural gas and electricity were updated beyond the study period; these costs reflect the rates that plants were charged in August 2002.
4. To get the **unadjusted costs** for the three cost groups, subtract from the "Processing Non-Labor" cost category the sum of the difference of the unadjusted and adjusted natural gas and electricity costs, as shown on the page entitled, "Cheese Energy Costs".
  - "Processing Non-Labor" and "Total Cost" for the low, medium and high cost groups would be increased by \$0.0046, \$0.0012 and \$0.0049 per pound, respectively.
  - The weighted average costs for "Processing Non-Labor" and for "Total Cost" would be increased by \$0.0040 per pound.
5. The "Processing Non-Labor" category includes costs such as utilities, repairs and maintenance, supplies, depreciation and rent.
6. The volume total includes both Cheddar and Monterey Jack cheeses, but the costs reflect only costs for 40 lb. blocks of Cheddar.
7. Three plants processed 500-lb. barrels or 640-lb. blocks. Packaging costs and packaging labor for 40 lb. blocks were substituted for these plants.
8. To obtain the weighted average, individual plant costs were weighted by their cheese processing volume relative to the total volume of cheese processed by all plants involved in the cost study.
9. The current manufacturing cost allowance for cheese is \$0.176 per pound. About 77% of the cheese was processed at a cost less than the manufacturing cost allowance.
10. The weighted average yield was 10.71 lbs. of cheese per hundredweight of milk. The weighted average moisture was 36.92%, and weighted average vat tests were 3.95% fat and 8.93% SNF.

<u>Cost Groups</u>	<u>Number of Plants</u>	<u>Processing Labor</u>	<u>Processing Non-Labor</u>	<u>Package</u>	<u>Other Ingredient</u>	<u>General &amp; Administrative</u>	<u>Return on Investment</u>	<u>Total Cost</u>	<u>Volume in Group</u>	<u>Percent in Group</u>
<i>dollars per pound of cheese</i>										
Low Cost	3	\$0.0331	\$0.0715	\$0.0172	\$0.0090	\$0.0144	\$0.0112	\$0.1564	492,760,164	70.4%
Medium Cost	3	\$0.0576	\$0.0652	\$0.0182	\$0.0215	\$0.0224	\$0.0057	\$0.1906	133,374,590	19.1%
High Cost	3	\$0.0843	\$0.1055	\$0.0242	\$0.0108	\$0.0236	\$0.0089	\$0.2572	73,386,930	10.5%
<u>Summary Statistics</u>										
<b>Weighted Average</b>		<b>\$0.0432</b>	<b>\$0.0738</b>	<b>\$0.0181</b>	<b>\$0.0116</b>	<b>\$0.0169</b>	<b>\$0.0099</b>	<b>\$0.1735</b>		
Range {	Minimum	\$0.0305	\$0.0518	\$0.0139	\$0.0084	\$0.0127	\$0.0024			
	Maximum	\$0.0931	\$0.1834	\$0.0312	\$0.0290	\$0.0272	\$0.0153			
Total									699,521,684	100%

# Energy Costs for Cheddar Cheese Plants

Released November 2002

1. Manufacturing cost data were collected and summarized from 9 California cheese plants. The 9 plants processed 699.5 million pounds of cheese in 2001, representing 95.1% of the Cheddar and Monterey Jack cheese processed in California.
2. The energy costs summarized in this study were incurred during a 18-month period, starting in July 2000 and ending in December 2001. These are referenced as "Unadjusted Energy Costs" in the table below.
3. Costs for natural gas and electricity were updated beyond the study period; these costs reflect the rates that plants were charged in August 2002. These are referenced as "Adjusted Energy Costs" in the table below.
4. To obtain the weighted average energy cost, individual plant energy costs were weighted by their cheese processing volume relative to the total volume of cheese processed by all plants involved in the cost study.

<u>Cost Groups</u>	<u>Number of Plants</u>	<u>Unadjusted Energy Costs</u>		<u>Adjusted Energy Costs</u>		<u>Volume in Group</u>	<u>Percent in Group</u>
		<u>Natural Gas</u>	<u>Electricity</u>	<u>Natural Gas</u>	<u>Electricity</u>		
		<i>dollars per pound of cheese</i>					
Low Cost	3	\$0.0085	\$0.0061	\$0.0033	\$0.0067	492,760,164	70.4%
Medium Cost	3	\$0.0121	\$0.0070	\$0.0085	\$0.0094	133,374,590	19.1%
High Cost	3	\$0.0184	\$0.0136	\$0.0104	\$0.0167	73,386,930	10.5%
<u>Summary Statistics</u>							
<b>Weighted Average</b>		<b>\$0.0102</b>	<b>\$0.0071</b>	<b>\$0.0050</b>	<b>\$0.0083</b>		
Percent of Total Cost		5.75%	4.00%	2.88%	4.78%		
Range {	Minimum	\$0.0045	\$0.0034	\$0.0020	\$0.0037		
	Maximum	\$0.0342	\$0.0216	\$0.0219	\$0.0188		
Total						699,521,684	100%



## Revised 11/26/02: CME Cheddar Cheese Prices vs. California Sales

### Introductory Remarks

Data were collected from 5 Cheddar cheese plants, representing sales of 40 pound blocks from January 2001 to July 2002. The 5 plants reported monthly sales volume and sales revenue. CME cheese prices are the monthly simple averages of 40 pound block prices released by CME, using the 26th of the prior month through the 25th of the current month. Weighted average California cheese prices represent the monthly price per pound received by each plant and then weighted by sales volume.

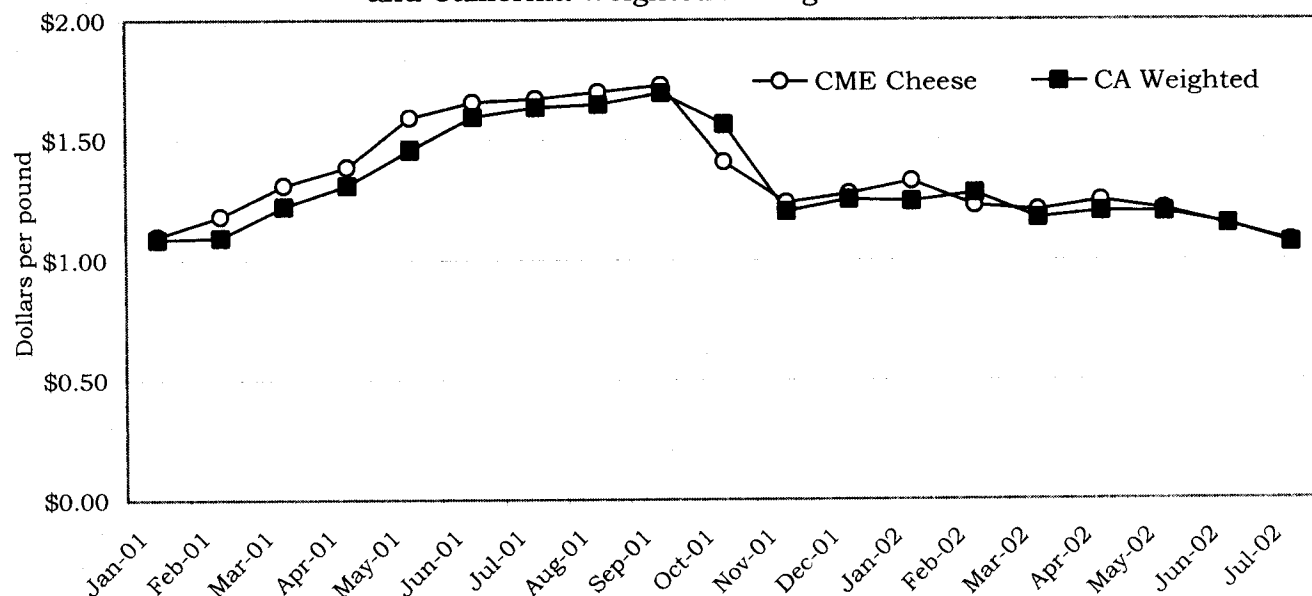
### Data Collected from CME and CA Plants

	<u>CME Cheese</u>	<u>CA Weighted</u>	<u>Difference</u>
Jan-01	\$1.0990	\$1.0864	-\$0.0127
Feb-01	\$1.1808	\$1.0928	-\$0.0880
Mar-01	\$1.3095	\$1.2229	-\$0.0866
Apr-01	\$1.3850	\$1.3097	-\$0.0753
May-01	\$1.5889	\$1.4562	-\$0.1326
Jun-01	\$1.6545	\$1.5935	-\$0.0610
Jul-01	\$1.6693	\$1.6328	-\$0.0365
Aug-01	\$1.6977	\$1.6453	-\$0.0524
Sep-01	\$1.7261	\$1.6927	-\$0.0333
Oct-01	\$1.4066	\$1.5625	\$0.1559
Nov-01	\$1.2374	\$1.2007	-\$0.0367
Dec-01	\$1.2750	\$1.2512	-\$0.0238
Jan-02	\$1.3261	\$1.2424	-\$0.0837
Feb-02	\$1.2250	\$1.2776	\$0.0526
Mar-02	\$1.2050	\$1.1729	-\$0.0321
Apr-02	\$1.2448	\$1.1998	-\$0.0450
May-02	\$1.2099	\$1.1980	-\$0.0119
Jun-02	\$1.1457	\$1.1483	\$0.0026
Jul-02	\$1.0764	\$1.0678	-\$0.0086

### Summary of Results

	<u>Average Differences</u>
All 19 Months	-\$0.0321
Only 2001	-\$0.0402
Only 2002	-\$0.0180
Maximum Positive Difference	\$0.1559
Maximum Negative Difference	-\$0.1326
Average without maximum positive and negative differences	-\$0.0372

Difference of Monthly CME Average Price  
and California Weighted Average Price Received



# Revised 11/26/02: CME Butter Prices vs. California Sales

## Introductory Remarks

Data were collected from 6 butter plants, representing sales of salted bulk butter from January 2001 to September 2002. The 6 plants reported monthly sales volume and sales revenue. CME butter prices are the monthly simple averages of butter prices released by CME, using the 26th of the prior month through the 25th of the current month. Weighted average California butter prices represent the monthly price per pound received by each plant and then weighted by sales volume.

## Data Collected from CME and CA Plants

	<u>CME Butter</u>	<u>CA Weighted</u>	<u>Difference</u>
Jan-01	\$1.2109	\$1.1851	-\$0.0258
Feb-01	\$1.3513	\$1.3535	\$0.0023
Mar-01	\$1.5344	\$1.5106	-\$0.0238
Apr-01	\$1.7725	\$1.7695	-\$0.0030
May-01	\$1.8750	\$1.8479	-\$0.0271
Jun-01	\$1.9677	\$1.9382	-\$0.0295
Jul-01	\$1.9000	\$1.8729	-\$0.0271
Aug-01	\$2.0448	\$2.0450	\$0.0002
Sep-01	\$2.1532	\$2.0795	-\$0.0736
Oct-01	\$1.4919	\$1.3872	-\$0.1048
Nov-01	\$1.3273	\$1.3018	-\$0.0255
Dec-01	\$1.2873	\$1.2706	-\$0.0167
Jan-02	\$1.3500	\$1.3148	-\$0.0352
Feb-02	\$1.2544	\$1.2203	-\$0.0340
Mar-02	\$1.2479	\$1.2172	-\$0.0307
Apr-02	\$1.1842	\$1.1625	-\$0.0216
May-02	\$1.0679	\$1.0218	-\$0.0461
Jun-02	\$1.0448	\$0.9604	-\$0.0844
Jul-02	\$1.0260	\$0.9936	-\$0.0324
Aug-02	\$1.0002	\$0.9663	-\$0.0339
Sep-02	\$0.9588	\$0.9347	-\$0.0242

## Summary of Results

	<u>Average Differences</u>
All 21 Months	-\$0.0332
Only 2001	-\$0.0295
Only 2002	-\$0.0381
Maximum Positive Difference	\$0.0023
Maximum Negative Difference	-\$0.1048
Average without maximum positive and negative differences	-\$0.0309

Difference of Monthly CME Average Price and California Weighted Average Price Received

